

USSR/Human and Animal Physiology. Thermoregulation.

T-3

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55378.

After an administration of phenamin (which by itself causes some rise in body temperature), the B. mesentericus injection caused a more pronounced temperature rise in some tests, and a less pronounced rise in temperature in other tests as compared to control tests. Also, studies were made on the effect of a B. mesentericus injection on 2 castrated dogs. In this case, during a certain initial period of time, following the injection of the pyrogenic agent, a decrease in FR was observed. However, after a prolonged period of time (about $3\frac{1}{2}$ years) the febrile capacity of the animals was completely restored.

Cards : 3/3

DAUDOVA, G.M.

Participation of the nervous system in the regulation of metabolism
in the liver. Report No.2: Effect of denervation of the liver on fat
accumulation in it during experimental pancreatic diabetes. Mat. po
evol. fiziol. 3:46-50 '58. (NIRA 12:4)
(LIVER--INNERVATION) (PANCREAS) (FAT METABOLISM)

Country : USSR
 Category : Human and Animal Physiology, Thermoregulation
 Abs. Jour. : Ref Zhur - Biol., No. 2, 1959, No. 7875
 Author : Daudova, G.M.
 Title : The Reactivity of the Thermoregulatory Centers of Animals in Amytal Hypothermia.
 Orig Pub. : Byul. eksperim. biol. i med., 1958, 45, No. 2, 62--66
 Abstract : A study was made of the reactions of the thermoregulatory centers to a pyrogen during amytal hypothermia; intact dogs were used, as well as dogs with the basic distaste receptors destroyed by V.S. Galkin's method (Arkhir biol. nauk, 1933, 33, vyp. 1--2, 27--53). Hypothermia usually resulted both in the animals which received a pyrogen (a vaccine of Bact. mesentericus, 0.5 or 1 ml/kg subcutaneously) during the first hour after the injection of sodium amytal (50--75 mg/kg) and when sodium amytal was given alone. When the pyrogen was injected 4 hours
 Card: 1/2

DAUDOVA, G.M.

Changes in body temperature and oxygen consumption in rabbits following administration of amytal sodium. Biul. eksp. biol. i med. 52 no.7:48-53 JI '61. (MIRA 15:3)

1. Iz otdela obshchey patologii (zaveduyushchiy - chlen-korrespondent AMN SSSR prof. P.N. Veselkin) Instituta eksperimental'noy meditsiny (direktor - chlen-korrespondent AMN SSSR prof. D.A. Biryukov) AMN SSSR, Leningrad. Predstavlena deystvitel'nyy chlenom AMN SSSR G.V. Anichkovym.

(BODY TEMPERATURE)
(RESPIRATION) (AMOBARBITAL)

L 62770-65

ACCESSION NR: AP5020627

UR/0218/64/029/006/1003/1008

AUTHOR: Mayfakh, S. A.; Daudova, G. M.

TITLE: Uncoupling of oxidative phosphorylation in the liver at the moment of awakening of hibernating animals

SOURCE: Biokhimiya, v. 29, no. 6, 1964, 1003-1008

TOPIC TAGS: biologic metabolism, experiment animal, biologic respiration, biochemistry

Abstract: Small gophers — *Citellus pygmaeus* — found in the steppes of the Central Volga area were used in the experiments which were carried out in order to test the hypothesis that the uncoupling of oxidative phosphorylation is at the basis of the rapid heat mobilization at the moment of the emergence of an animal from winter hibernation. The animals were under observation when in a state of activity, in a period of hibernation, and at the moment of their waking from hibernation. The state of oxidative and phosphorus metabolism in the liver was determined in all three groups of the experimental animals. Two series of experiments were conducted. In the first series, respiration and oxidative phosphorylation in the hepatic mitochondria were studied to establish the P/O coefficient. In the

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L 62770-65

ACCESSION NR: AP5020627

second series of experiments the ratio of the components in the adenylic system was determined. The experiments established that the average value of the P:O coefficient in the hepatic mitochondria of the active animals was equal to 1.28; hibernating gophers -- 1.34; animals emerging from hibernation -- 0.82, i.e., almost 40 percent lower than in the two other groups. These data correspond with those obtained in the analysis of the hepatic adenylic system, for at the moment of awakening of the animals the adenosine triphosphate content is considerably reduced (41.4 instead of 59 percent), while the content of adenosinediphosphoric acid and adenylic acid is increased (respectively 34.4 instead of 26.8 and 24.2 instead of 14.2 percent) as compared with those in the hibernating animals. It was established also that the waking from hibernation is characterized by the predominance of true heat production over heat production calculated on the basis of O_2 consumption. On the basis of the data obtained in the described experiments, it was concluded that a partial uncoupling of oxidative phosphorylation takes place in the hepatic tissues of the animals emerging from winter hibernation, and that this uncoupling process is at the basis of the so-called mechanism of the rapid mobilization of heat in the organism of the animals. Orig. art. has 1 figure and 1 table.

Card 2/3

L 62770-65

ACCESSION NR: AP5020627

ASSOCIATION: Laboratoriya enzimologii otдела биохимии и лаборатория обшей патологии Института экспериментальной медицины Академии медицинских наук СССР, Leningrad (Laboratory of Enzymology, Department of Biochemistry and Laboratory of General Pathology, Institute of Experimental Medicine, Academy of Medical Sciences USSR)

SUBMITTED: 13Jan64

INCL: 00

SUB CODE: 15

NO REF SOV: 011

OTDEL: 018

J123

Card 3/3

L-57476-65

ACCESSION NR: AP5014190

UR/0385/65/001/001/0032/0037
577.154.24:591.543.42:591.436.2
+591.175:599.322.2

AUTHOR: Daudova, G. M.; Stepanova, N. G.

TITLE: Hexokinase and glucokinase in liver and muscle cell fractions of susliks during hibernation and awakening

SOURCE: Zhurnal evolyutsionnoy biokhimi i fiziologii, v. 1, no. 1, 1965, 32-37

TOPIC TAGS: laboratory animal, metabolism, enzyme, liver, hibernation, muscle protein, physiology

ABSTRACT: Experiments were performed to determine glucokinase activity in the mitochondria and soluble fraction from the muscles and liver of wakeful adult susliks (*Citellus pygmaeus* Fall.) and the activity of hexokinase and glucokinase in liver mitochondria during hibernation and at the time of awakening of these animals. Hexokinase activity in the liver and muscles of wakeful susliks was found to be much higher than in such laboratory animals as rabbits or rats. Also, its distribution between the cell fractions differed from that in the laboratory animals. Translated

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L 57476-65

ACCESSION NR: AP5014190

into protein content of the fractions, hexokinase activity was more intense in the liver mitochondria of the susliks. However, it was only slightly higher in the soluble liver fraction of the susliks than in the rats and rabbits. As in the rabbits and rats, glucokinase activity in the susliks was concentrated mainly in the soluble liver fraction. No glucokinase was found in the muscles of the susliks. Hexokinase activity in the liver mitochondria of hibernating susliks was less by a factor of 5.5 when compared with wakeful animals, whereas glucokinase activity decreased only slightly during hibernation. When the animals were awakened, hexokinase activity in the mitochondria increased sharply within 12-15 minutes, although body temperature rose insignificantly. Thereafter, hexokinase activity continued to increase in parallel with the rise in body temperature. Glucokinase activity in the mitochondria diminished during hibernation but tended to increase when the animals were awakened. The high hexokinase activity in the liver and muscles of wakeful susliks is regarded by the authors as a form of adaptation. Orig. art. has: 2 figures, 1 table.

ASSOCIATION: Otdel obshchey patologii i otdel biokhimii Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad (General Pathology and Biochemistry Departments, Institute of Experimental Medicine, AMN SSSR)

Card 2/3

L-57476-65

ACCESSION NR: AP5014190

SUBMITTED: 11Nov64

ENCL: 00

SUB CODE: LS

NO REF SOV: 006

OTHER: 006

Card 3/3

DAUDOVA, G.M.; REPIN, I.S.

Thermoregulating activity of the muscles in the awakening of
hibernating animals. Pat. fiziol. i eksp. terap. 9 no.2:73-74
Mr-Apr '65. (MIRA 18:5)

1. Laboratoriya obshchey patologii (zav. - chlen-korrespondent
AMN SSSR prof. P.N.Veselkin) Instituta eksperimental'noy meditsiny
AMN SSSR, Leningrad.

DAUDOVA, G.M.; NEYFAKH, S.A.

Respiratory processes and phosphorylation in the liver mitochondria
of the hibernating gopher. Fiziol.zhur. 51 no.3:384-387 Mr '65.

(MIRA 18:5)

1. Otdel obshchey patologii i laboratoriya biokhimicheskoy
genetiki Instituta eksperimental'noy meditsiny AMN SSSR, Leningrad,

DAUDOVA, G.M.

Glycemic curves in experimentally induced vaccinal fever. Pat.
fiziol. i eksp. terap. 9 no.1:71-72 Ja-F '65. (MIRA 18:11)

1. Otdel obshchey patologii (zav. - chlen-korrespondent AMN SSSR
prof. P.N. Veselkin) Instituta eksperimental'noy meditsiny AMN
SSSR, Leningrad.

NEYFAKH, S.A.; DAUDOVA, G.M.

Uncoupling of oxidative phosphorylation in the liver during the awakening of a hibernating animal. Biokhimiia 29 no.6:1003-1008 N-D '64.
(MIRA 18:12)

1. Laboratoriya enzimologii otdela biokhimii i laboratoriya obshchey patologii Instituta eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR, Leningrad. Submitted January 13, 1964.

L 25825-66

ACC NR: AP6015935

SOURCE CODE: UR/0239/65/051/003/0384/0387

AUTHOR: Daudova, G. M.; Neyfakh, S. A., Neifakh, S. A.

ORG: Department of General Pathology and Laboratory of Biochemical Genetics, Institute of Experimental Medicine, AMN SSSR, Leningrad (Otdel obshchey patologii i Laboratoriya biokhimicheskoy genetiki Instituta eksperimental'noy meditsiny AMN SSSR)

TITLE: Respiration and phosphorylation in liver mitochondria of hibernating ground squirrels

SOURCE: Fiziologicheskoy zhurnal SSSR, v. 51, no. 3, 1965, 384-387

TOPIC TAGS: biologic respiration, phosphorylation, liver, cell physiology

ABSTRACT: Determinations carried out on mitochondria isolated from the liver of ground squirrels (*Citellus pygmaeus* Pall.) with a body temperature of 5-12° that were in a state of hibernation indicated that the respiration of the mitochondria and the oxidative phosphorylation in them were at the same level as for animals of the same species that had a body temperature of 33-39° and were in a state of wakefulness and active. The authors thank Professor B. K. Kenyuk and S. H. Varshavskiy (Institut "Mikrob," Saratov) for their assistance in sorting the ground squirrels. Orig. art. has: 3 figures. /JPRS/

SUB CODE: 06 / SUBM DATE: 20Dec63 / ORIG REF: 009 / OTH REF: 012

Card 1/1 CC

UDC: 612.58

L 07470-67 EWT(1) SCTB DD
ACC NR: AP6035574

SOURCE CODE: UR/0385/66/002/005/0429/0431

AUTHOR: Daudova, G. N.

ORG: Department of General Pathology, Institute of Experimental Medicine, Academy of Medical Sciences SSSR, Leningrad (Otdel obshchey patologii Instituta eksperimental'noy meditsiny Akademii meditsinskikh nauk SSSR)

TITLE: Oxidative phosphorylation in the skeletal muscles of the suslik during winter hibernation and artificial deep hypothermia

SOURCE: Zhurnal evolyutsionnoy biokhimii i fiziologii, v. 2, no. 5, 1966, 429-431

TOPIC TAGS: biologic metabolism, hypothermia, animal experiment, biologic oxidation, animal physiology, suslik, rodent

ABSTRACT: This study was conducted during 1963-1964 using lesser susliks (Cytellus pygmaeus Pall.). During normal winter hibernation, animals were maintained at a temperature of 3-5°C. Tests on active animals took place indiscriminately, either before or after normal hibernation. The animals were decapitated and femur muscle specimens were quickly removed, cooled, and homogenized in a saline solution as follows (final concentration, M): KCl-0.1; tris-buffer(pH-7.4)-0.05; MgCl-0.005; ATP-0.001; versene-0.001; 20% of the homogenate was centrifuged for 5 min at 800 G. The supernatant was then centrifuged for 20 min at 12,000 G. Mitochondria from 1 g of fresh tissue were mixed in 1.5 ml of fluid. This procedure took place at a temperature

Card 1/2

UDC: 577.154.5:591.75.05:591.543.42:599.323+612.58.0151.15.5

CHINENKOV, Yu.V. [Cinenkovas, J.]; DAUDYARIS, P.P. [Dauderys, P.]

Study of the joints and elements of precast cylindrical shells
made from light or cellular concretes. Trudy AN Lit. SSSR. Ser.
B no. 1:205-223 '63. (MIRA 17:5)

1. Institut stroitel'stva i arkhitektury AN Litovskoy SSSR.

KHUDOMINSKAYA, L.S.; DAUENGAUER, N.A.; MARCHUKOVA, A.A.

Spectrophotometric determination of the aromatic hydrocarbons
in the pyrolysis products of chamber natural gasoline. Trudy
VNIIT no.13:232-237 '64. (MIRA 18:2)

L 18064-63

EWI(d)/FCC(w)/BDS AFPC/IJP(C)

ACCESSION NR: AF002554

S/2944/63/000/001/0012/0026

54

AUTHORS: Daugavet, I. I.; Domanovskaya, Ye, F.

TITLE: Quadrature formulas adapted for solving integral equations

SOURCE: Leningrad. Universitet. Kafedra vychislitel'noy matematiki i
Vychislitel'nyy tsentr. Metody vychisleniy, no. 1, 1963, 12-26

TOPIC TAGS: quadrature formula, eigenvalue, differential equation

ABSTRACT: The author constructs formulas for approximate quadrature for use in
integral and differential equations. Among the applications is accurate deter-
mination of eigenvalues. Orig. art. has: 14 formulas and 10 tables.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 28Jun63

ENCL: 00

SUB CODE: MM

NO REF SOV: 002

OTHER: 000

Card 1/1

AUTHOR: Daugavet, I.K. SOV/140-58-5-13/14
 TITLE: On the Velocity of Convergence of the Galerkin Method for Ordinary Differential Equations (O bystrote skhodimosti metoda Galerkina dlya obyknovennykh differentsial'nykh uravneniy)
 PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1958, Nr 5, pp 158-165 (USSR)
 ABSTRACT: The author considers the boundary value problem

$$(1) \quad L(x) = \frac{d^{2k}x}{dt^{2k}} + \lambda \left[a_1(t) \frac{d^{2k-1}x}{dt^{2k-1}} + \dots + a_{2k}(t)x \right] = y(t)$$

$$(2) \quad x(-1) = x'(-1) = \dots = x^{(k-1)}(-1) = 0$$

$$x(1) = x'(1) = \dots = x^{(k-1)}(1) = 0.$$

Let the approximative solution $x_n(t)$ be sought according to

Galerkin as a series $x_n(t) = \sum_{i=0}^n c_i \varphi_i(t)$, $\varphi_i(t) = (1-t^2)^k t^i$, where

the c_i are obtained from the conditions

Card 1/3

On the Velocity of Convergence of the Galerkin Method SOV/140-58-5-13/14
for Ordinary Differential Equations

$$\int_{-1}^{+1} L(x_n) \cdot \varphi_i(t) dt = \int_{-1}^{+1} y(t) \varphi_i(t) dt, \quad i=0, 1, \dots, n.$$

Main results: Let λ be no eigen value of the problem (1)-(2), let the $a_1(t)$ be sufficiently smooth. Let $x^*(t)$ be the solution of (1)-(2) and $x_n(t)$ be the approximation determined according to the method of Galerkin. Then for $t \in [-1, 1]$ it holds

$$\left| \frac{d^s}{dt^s} [x^*(t) - x_n(t)] \right| \leq CE_n^{(s)}(x^*) n^{k-s-3/2}, \quad 0 \leq s \leq k-3$$

$$\left| \frac{d^s}{dt^s} [x^*(t) - x_n(t)] \right| \leq CE_n^{(s)}(x^*) \sqrt{n} \ln n, \quad s=k-2, k-1, k$$

where it is

$$E_n^{(s)}(x^*) = \inf_{Q_n} \sup_{-1 \leq t \leq 1} \left| \frac{d^s}{dt^s} [x^*(t) - (1-t^2)^k Q_n(t)] \right|$$

and inf is taken over all polynomials $Q_n(t)$ of at most n -th degree.

Card 2/3

On the Velocity of Convergence of the Galerkin Method for Ordinary Differential Equations SOV/140-58-5-13/14

If $x^*(t)$ is r -times continuously differentiable and if the r -th derivative satisfies the Lipschitz condition with the exponent α , then it holds

$$\left| \frac{d^s}{dt^s} [x^*(t) - x_n(t)] \right| \leq \begin{cases} C \cdot n^{-(r-k+\alpha+\frac{3}{2})} & 0 \leq s \leq k-3 \\ C \cdot n^{-(r-s+\alpha-\frac{1}{2})} \ln n, & s = k-2, k-1, k \end{cases}$$

There are 5 references, 4 of which are Soviet, and 1 is American.

ASSOCIATION: Leningradskiy gosudarstvennyy universitet imeni A.A.Zhdanova
(Leningrad State University imeni A.A.Zhdanov)

Card 3/3

DAUGAVET, I.K., Cand Phys-Math Sci -- (diss) "Study of the ^{Speed of} convergence ~~rate~~ of the B.G. Galerkin method for ordinary differential equations." Len, 1959. 6 pp (Len Order of Lenin State U im A.A. Zhdanov). 150 copies (KL,37-59, 106)

6

31101

S/199/61/002/005/005/006
B112/B138

16.3400

AUTHOR: Daugavet, O. K.

TITLE: A method of numerical integration of ordinary differential equations

PERIODICAL: Sibirskiy matematicheskiy zhurnal, v. 2, no. 5, 1961,
792 - 796

TEXT: The approximate solutions $y_{i,k+1} = y_{ik} + \int_{x_k}^{x_{k+1}} y'_i(x) dx$ of the system

$y'_i = f_i(x, y_1, y_2, \dots, y_n)$ are represented by the linear combinations

$$y_{i,k+1} = y_{ik} + a_0 y'_{ik} + \dots + a_l y'_{i,k-l}.$$

The coefficients a_l satisfy systems of the algebraic equations

$$\int_{x_k}^{x_{k+h}} \varphi_j(t) dt = \sum_{i=1}^{l+1} a_i \varphi_j(x_k - (l+1-i)h),$$

Card $1/2^k$

31101

A method of numerical...

S/199/61/002/005/005/006
B112/B138

where φ_j are given functions, linear combinations of which approximate the functions f_i . Three examples are given. There are 4 tables and 3 references: 2 Soviet and 1 non-Soviet. The reference to the English-language publication reads as follows: Bellman R., On the Asymptotic Behavior of Solutions of $u'' - (1 + f(t))u = 0$, Annali di matem. XXXI (1950), 83 - 91, 4

SUBMITTED: February 20, 1961

Card 2/2

DAUGAVET, O.K. (Leningrad); OZEROVA, Ye.F. (Leningrad)

Programming program of the compiler type. Zhur.vych.mat.i mat.
fiz. 1 no.4:747-748 JI-Ag '61. (MIRA 14:8)
(Programming (Electronic computer))

DAUGAVET, I.K.

A property of completely continuous operators in C-space. Usp.
mat. nauk 18 no,5:157-158 3-0 '63. (MIRA 16:12)

DAUCAVET, I.K.; SAMOKISH, B.A.

A posteriori estimation of the error of the numerical solution
of a differential equation. Metod. vych. no.1:52-57 '63.
(MIRA 16:8)
(Differential equations—Numerical solutions)

DAUGAVET, I.K.

An approximation process related to Legendre polynomials.
Metod. vych. no.2:29-38 '63.

(MIRA 18:11)

L 13802-65

ACCESSION NR: AT4047147

In term of an estimate of the residual

$$\alpha(t, x) = \frac{\partial u}{\partial t} - \frac{\partial^2 u}{\partial x^2} - f(t, x)$$

where $u(t, x)$ is a given approximate numerical solution of the boundary-value problem for equation (1), is presented. Due to the simplicity of (1), the error estimate is derived in complete form under conditions imposed upon the function $f(t, x)$. To derive an estimate of $\alpha(t, x)$, it is necessary to know a approximate

and assuming the given values at lattice points of the net. The construction of the solution is based on piece-wise interpolation. The estimation of $\alpha(t, x)$ is carried out by means of a method similar to that developed earlier by the author [In Sb. Metody vychisleniy, no. 1, 1963, 52-57] and used in determining error estimates for numerical solutions of ordinary differential equations. Two examples illustrate the procedure used in the computations. Orig. art. has: 1 figure and 1 table.

Card 2/3

L 13802-6;

ACCESSION NR: AT4047147

ASSOCIATION: none

SUBMITTED: 16Apr63

ENCL: 00

SUB CODE: Ha, M

NO REF 10V: 001

OTHER: 000

ATD PRESS: 3132

Card 3/3

DAUGAVET, I.K. (Leningrad)

Estimation of the error arising in the numerical solution of
the heat conduction equation. Zhur. vych. mat. i mat. fiz. 4
no.4(suppl.):217-227 '64. (MIRA 18:2)

L 49458-65 EWT(d) Pg-4 IJP(c)

ACCESSION NR: AP5000399

S/0199/65/006/001/0070/0085

AUTHOR: Daugavet, I. K.

TITLE: On the method of moments for ordinary differential equations

16

12
11
B

SOURCE: Sibirskiy matematicheskiy zhurnal, v. 6, no. 1, 1965, 70-85

TOPIC TAGS: ordinary differential equation, linear differential equation, approximation method, boundary value problem

ABSTRACT: For the equation

$$Lx = x^{(n)}(t) + a_1(t)x^{(n-1)}(t) + \dots + a_n(t)x(t) = y(t)$$

let the following boundary problem be set:

$$U_v(x) = \sum_{i=0}^{n-1} (a_{vi}x^{(i)}(-1) + \beta_{vi}x^{(i)}(1)) = 0, \quad v = 1, \dots, k$$

The method of moments consists in finding an approximate solution $x_n(t)$ in the form of a polynomial of degree $n+k$ with undetermined coefficients which should be chosen so as to satisfy the given boundary conditions and the following equation:

$$\int_{-1}^{+1} Lx_n \cdot t^i dt = \int_{-1}^{+1} y(t) \cdot t^i dt, \quad i = 0, 1, \dots, n$$

Card 1/2

49458-65

ACCESSION NR: AP5008399

The convergence of the solution follows from a very general theorem of S. G. Mikhailin. Here, an estimate is made of the rate of uniform convergence of the method under the assumption that the coefficients of the equation are sufficiently smooth functions. To extend the estimate to the general equation, an asymptotic equation is set up:

$$x_n(t) - x(t) = x_n(t) - \bar{x}_n(t) + o(\|x_n - \bar{x}_n\|_C)$$

where $\bar{x}_n(t)$ is an approximate solution with $y = x_n(k)$ obtained by the method of moments. Conditions are stated under which the asymptotic equation holds, and the boundary value problem is investigated with respect to these conditions. Finally, estimates of rate of convergence are made for a group of approximation methods for a differential equation of even order under the simplest boundary conditions. An improvement is made in the estimate of rate of convergence due to B. G. Galerkin.

Orig. art. has: 107 formulas

ASSOCIATION: none

SUBMITTED: 17Jan64

ENCL: 00

SUB CODE: MA

NO REF SOV: 006

OTHER: 001

Card 2/2 CC

DAVET, I. P., Nauch. Sotr.

Nikiforov, Yu. N., Laureat Stalinskoy Premii Inzh. I

Nauchno-Issledovatel'skiy institut zhelezno-dorozhnogo Stroitel'stva i proyektirovaniya

Issledovaniye protsessov i opytnye priimeneniya skel'nykh sroykov drevesiny. Page 43

SO: Sbornik Annotatsiy Nauchno-Issledovatel'skikh Rabot po Stroitel'stvu, Moscow, 1951

DAUGAYEV, I. K.

USSR/Mathematics - Galerkin's method

Card 1/1 : Pub. 22 - 4/44

Authors : Dugaev, I. K.

Title : Application of the general theory of approximation methods to the analysis of Galerkin's method of convergence for solutions of some boundary problems of mathematical physics

Periodical : Dok. AN SSSR 98/6, 897-899, October 21, 1954

Abstract : The solution of a given problem is sought in the form of Galerkin's method, the convergence of which is analyzed in the light of the general theory of approximation methods. Five references (1948-1953).

Institution : Leningrad State University im. A. A. Zhdanov

Presented by: Academician V. I. Smirnov, July 16, 1954

DAUGELA, A.

Simultaneous gastro-duodenal resection in cancer of Vater's ampulla.
Sveik. apsaug. 7 no.4(76):31-33 Ap '62.

1. Khirurgicheskoye otdeleniye Kaunasskogo onkologicheskogo dispansera.
Zav. otd. - A. Daugela.

(VATER'S AMPULLA neopl) (GASTRECTOMY)
(DUODENUM surg)

DAUGELA, I. I., Candidate Tech Sci (diss) -- "Investigation of a system of stabilizing the frequency of a source of variable voltage". Kaunas, 1959. 23 pp (Min Higher Educ USSR, Kaunas Polytech Inst), 150 copies (KL, No 26, 1959, 125)

DAUGELAITE, M.

Exercise therapy in myocardial infarction according to the Republican Clinical Hospital in Kaunas. Sveik. apsaug. 7 no.3(75):54 Mr '62.

1. Respublikline Kauno klinine ligonine.

(MYOCARDIAL INFARCT ther) (EXERCISE THERAPY)

DAUGERDAKH, T.M. (Abakan)

Easy method for treating purulent otitis in children. Vol'd. 1 sknsh.
21 no.12:8 D '56. (MIRA 10:1)

(EAR--DISEASES)

(PENICILLIN)

DAUGENT, R. K.

DAUGENT, R. K.= "Experimental-morphological investigation of the innervation of the periosteum of the anterior extremity of certain mammals." Min Higher Education. Belaya Tserkov' Agricultural Inst. Belaya Tserkov', 1956. (Dissertations for the Degree of Candidate in Biological Sciences).

30: Knizhnays Letopis' No. 22, 1956

DAUGERTS, R.; GARANCIS, A.; ZARINA, D.; SIRMAIS, J., red.

[Physiology of animals] Dzīvnieku fizioloģija. Rīga,
Latvijas Valsts izd.-ba, 1963. 433 p. [In Latvian]
(MIRA 17:7)

DAUGUL', R.

Growing perennial subtropical and fruit cultures on moisture-saturated lands in winter and irrigated lands in early spring in southwestern Turkmenia. Izv. AN Turk. SSR. Ser. biol. nauk no.2:51-53 '64. (MIRA 17:6)

1. Kizyl-Atrekskaya opytnaya stantsiya subtropicheskikh kul'tur.

L 08816-67 EWT(1)

ACC NR: AT6023093

SOURCE CODE: UR/3200/65/000/004/0141/0155

AUTHOR: Apsit, V. V.; Daugulis, Kh. L.

39

ORG: none

TITLE: The methodology of selecting the basic dimensions for a synchronous machine with claw-like pole structure and an internal magnetic circuit

29

SOURCE: AN LatSSR. Institut energetiki. Beskontaknyye elektricheskiye mashiny, no. 4, 1965, 141-155

TOPIC TAGS: electric motor, synchronous electric motor, magnetic circuit, magnetic induction, magnetic structure

ABSTRACT: The authors provide a detailed design analysis of synchronous induction motors with claw-like pole structure. A cut-off of a typical motor of this type is shown in figure 1. Because of the compactness of the stator structure (which contains the inductor poles, the excitation windings, the internal magnetic circuit and other components) the feasibility of construction is determined to a large degree by the correct selection of the bore in the stator. While the usual approach to calculate several design variations is used, this paper describes a more rigorous design method based on performance and overall size requirements. The main dimensions of the motor are given by

$$D_r = D_o + 2h_w + 2h_p \quad (1)$$

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L 08816-67

ACC NR: AT6023093

where D_r is the rotor diameter, D_c is the cylinder diameter, h_w is the radial coil (excitation windings) dimension, and h_p is the radial pole dimension (height). Separate solutions for each variable in this formula (1) are given, based on the normally

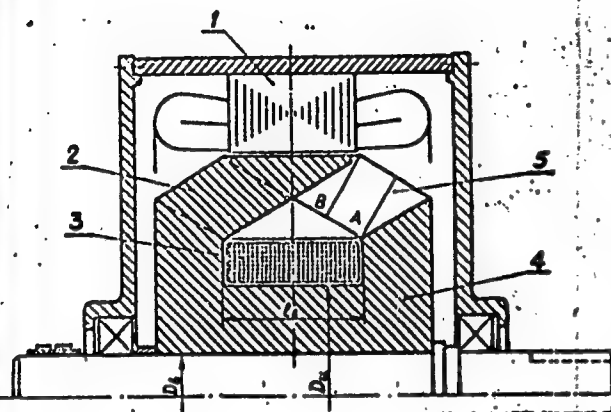


Fig. 1. 1--armature; 2 and 5--claw-like pole structures; 3--excitation coil; 4--magnetic circuit of the inductor.

available design information. A step-by-step design procedure is included with practical approximations for the derived expressions. Fundamentally, the selection of a particular geometry is dictated by a given electromagnetic load and the allowable temperature rise in the windings. Orig. art. has: 6 figures, 62 formulas.

SUB CODE: 09/

SUBM DATE: none/

ORIG REF: 005

Card 2/2 nat

DAUIOTAS, A.N. [Daujotas, A.]

Receiving of bulk unrefined sugar in the sugar factories of the
Lithuanian S.S.R. Sakh.prom. 37 no.6:18-20 Je '63. (MIRA 16:5)

1. Upravleniye pishchevoy promyshlennosti soveta narodnogo
khozyaystva Litovskoy SSR.
(Lithuania—Sugar factories) (Materials handling)

DAUKANTAS, T.

Contents of the maritime statute.

P. 22 (TECHNIKOS ZODIS) Lithuania No. 3, June/July 1957

SO: Monthly Index of East European Accessions (AEEI) Vol. 6, No. 11

2770 Daukayev, M.R.

Markistskoye Ucheniye O Prevos'hodstve Krupnogo Proizvodstva V Zemledelii I
Ukrupneniye Melkikh Kol'hozov. M., 1954. 16s. 22sm. (Adad. Ovshchnostv. Nauk
Pri Tak KPSS, Kafedra Polit. Ekonomin.) 220 EKZ. B. Ts. -- (54-55712)

SERGEYEV, L.I.; DAUKAYEVA, R.S.; SAKHNOV, N.S.

Effect of mineral fertilizers and topdressing on the physiology
and productivity of black currant. Izv. SO AN SSSR no.8. Ser.
biol.-med.nauk no.2:94-98 '65. (MIRA 18:9)

1. Bashkirskiy gosudarstvennyy universitet, Ufa.

DAUKAYEVA, R.S.; POPOV, M.N.; VOLCHANSKIY, A.S.

Defoliation in woody plant nurseries and stands. Trudy Inst.
biol. UFAN SSSR no. 43:183-187 '65 (MIRA 19:1)

1. Institut biologii Bashkirskogo gosudarstvennogo universiteta
i Smolinskiy plodopit'micheskii sovkhov.

L 23116-66 EWT(m)/EWG(m)/T/EWP(t) - IJP(c) - RDW/JD
 ACC NR: AP6006860 SOURCE CODE: UR/0181/66/008/002/0591/0593
 AUTHOR Krishchunas, V. Yu.; Daukantayte, O. K.
 ORG: Vil'nius State University im. V. Kapsukas (Vil'nyuskiy gosudarstvennyy uni-
versitet)
 TITLE: Photoconductivity of selenium single crystals under hydrostatic pressure
 SOURCE: Fizika tverdogo tela, v. 8, no. 2, 1966, 591-593
 TOPIC TAGS: selenium, single crystal, pressure effect, photoconductivity, elec-
 tric conductivity, crystal anisotropy, spectral distribution, absorption edge,
 carrier density
 ABSTRACT: In view of the lack of data on the dependence of the photoconductivity
 on the pressure, and in view of certain peculiarities in the compressibility of
 selenium, the authors investigated the dependence of the electric conductivity and
 the photoconductivity on the pressure of different orientations of the electric
 field relative to the C axis. The chamber for the investigation of the pressure
 dependence was the same as described earlier (FTT v. 7, 2571, 1965), except that
 one optical window was replaced by a stopper with electrodes. The single crystals
 of selenium were grown from the gas phase in the form of ribbons. The electric

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ACC NR: AP6006860

field intensity did not exceed 10 v/cm. The changes of the electric conductivity and the photoconductivity were reproducible in the investigated pressure interval (up to 4,000 atm). The electric conductivity tensor components were different in different directions under normal conditions and varied in between limits 1.1×10^{-7} -- 2.3×10^{-8} and 1.5×10^{-8} -- 1.7×10^{-8} ohm⁻¹ cm⁻¹. The anisotropy for individual crystals ranged from 4 to 12. The changes in the two types of conductivities were independent of the orientations and ranged from 6.2×10^{-4} to 2.5×10^{-4} atm⁻¹. The spectral distribution of the photoconductivity was investigated in natural light and the maximum of photoconductivity corresponding to the intrinsic absorption edge was observed only for samples with large conductivity or at high pressure. The results are briefly interpreted from the point of view of the concentration theory. For a complete explanation of the experimental data it is necessary to assume that the pressure changes not only the mobility and the density of the carriers, but also their effective mass. Orig. art. has: 2 figures.

SUB CODE: 20/

SUBM DATE: 06Sep65/

ORIG REF: 003/

OTH REF: 004

Card 2/2 OLC

DAUKER, K.Kh.

Map excision theorem. Soob.AN Gruz. SSR 24 no.6:649-654 Je '60.
(MIRA 13:9)

1. Londonskiy universitet, Birkbek kolledzh. Predstavleno akademikom
N.I. Muskhelishvili.
(Topology)

DAUKER, Ya.N.

On representations without a fine invariant measure. Soob.AN
Grus.SSR 23 no.4:391-396 0 '59. (MIRA 13:5)

1. Londonskiy universitet. Predstavleno akademikom N.I.
Muskhelishvili.

(Mensuration)

L 06138-67 EWT(1)/EWT(m)/EWP(t)/ETI IJP(c) AT/JD

ACC NR: AP6031172

SOURCE CODE: UR/0361/66/000/002/0076/0078

AUTHOR: Korsunskiy, M. I.; Trofimov, O. A.; Garger, K. S.; Daukeyev, D. K.

ORG: none

57
13

TITLE: Concerning the spectral distribution of anomalous photoconductivity of amorphous selenium in the near ultraviolet

SOURCE: AN KazSSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 2, 1966, 76-78

TOPIC TAGS: spectral distribution, photoconductivity, selenium, UV spectrum, electron trapping

ABSTRACT: The dependence of the anomalous photoconductivity σ on wavelength in films of amorphous selenium is measured. The conductivity of samples is lower for blue light than for red even though selenium is more absorptive in the blue. This property is not predicted by the phenomenological theory based on the hypothesis of long-lived trapping centers. A recent model of long-lived trapping centers in the form of a colloidal dispersion of an alloy in amorphous selenium predicts a positive sign of the derivative $\frac{d\sigma}{d\lambda}$ in the visible region. Also a short wavelength minimum is predicted, indicating a minus sign for $\frac{d\sigma}{d\lambda}$ in the near ultraviolet. These predictions are experimentally veri-

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L 06138-67

ACC NR: AP6031172

fied. Orig. art. has: 1 formula, 1 table, 1 figure.

SUB CODE: 20/ SUBM DATE: 23Apr65/ ORIG REF: 006

DAUKNIS, V.I.

On the quality of D-35 engine crank-shafts.

p. 77 (Lietuvos TSR Mokslu Akademija. Fizikos-technikos institutas. Darbai. Vol. 2, 1956, Vilnius, Lithuania)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2,
February 1958

DAUKNIS, V.I.; BEREZNIKOV, V.V.

Crankshaft quality in the D-35 engine. Avt. itrakt.prom no.10:29-30
O '56. (MIRA 10:1)

1. Fiziko-tehnicheskii institut Akademii Litovskoy SSR, Kamanas-
skiy remontnyy zavod.
(Crankshaft and crankshafts) (Tractors--Engines)

DAUKNIS, V. I.

DAUKNIS, V. I.

Formation of a skew cut in studying thin surface layers. Zav.lab.
22 no.10:1227-1228 '56. (MLRA 10:5)

1.Fiziko-tehnicheskiy institut Akademii nauk Litovskoy SSR.
(Metallography)

DAKNTS. V. I. Inzhener

ectoid

DAUKNIS, V.I. [Daukys, V.]

"The white phase" in a surface layer created by electric spark hardening. Liet ak darbai B no.4:161-169 '59 (EEAI 9:3)

1. Institut energetiki i elektrotechniki AN Litovskoy SSR.
(Electric spark) (Hardening)

DAUKNIS, V.I. [Dauknys, V.]

Resistance to wear of the so-called white phase, treated by electric-spark hardening, during the abrasion test. Liet ak darbai B no.3: 239-250 '60. (EEAI 10:3)

1. Institut energetiki i elektrotechniki Akademii nauk Litovskoy SSR.

(Electric spark) (Hardening) (Abrasion)

DAUKNIS, V.I. [Dauknys, V.]

Using the M4-B machine for the investigation of surface layers.
List ak darbai B no.4:215-219 '61.

1. Institut energetiki i elektrotehniki AN Litovskoy SSR.

DAUKNIS, V.I. [Dauknys, V.]; PRANTSKYAVICHYUS, G.A. [Pranckevicius, G.]

Size factor in determining resistance to abrasive wear.
List ak darbai B no.4:221-227 '61.

1. Institut energetiki i elektrotehniki AN Litovskoy
SSR.

S/883/62/000/000/002/020
E194/E155

AUTHOR: Dauknis, V.I.
TITLE: A machine for studying the resistance to abrasive wear
of surface layers
SOURCE: Metody ispytaniya na iznashivaniye; trudy soveshchaniya,
sostoyavshegosya 7-10 dek. 1960. Ed. by
M.M. Khrushchov. Moscow, Izd-vo AN SSSR, 1962. 19-23
TEXT: The Institut energetiki i elektrotekhniki AN Lit.SSR
(Power Engineering and Electrotechnical Institute, AS Lith.SSR)
developed a machine for determining the resistance to wear of
surface layers of materials in contact with a moving abrasive belt.
The belt was wound from one spool to another, over a smooth flat
support, at a constant speed in the range 2 - 273 metres/min.
The spools carried about 20 metres of 18 cm wide abrasive belt,
so that a wear path of any length up to 20 metres could be used,
the driving motor then being automatically stopped. Wear
specimens of various diameters and profile could be clamped in
the holders, which were each mounted on two cantilever springs
carrying strain gauges to measure displacement. The lateral
Card 1/2

ACC NR: AP6034934

(A)

SOURCE CODE: UR/0236/66/000/001/0161/0166

AUTHOR: Prantskyavichyus, G. A.—Frankeviccius, G.; Yurenas, V. L.—Jurenas, V.;
Daukna, V. I.—Dauknyz, V.; Yodis, A. P.—Juodis, A.; Mayauskas, I. S.—Majauskas, J.

ORG: Institute of Power and Electrical Engineering, Academy of Sciences Lithuanian
SSR (Institut energetiki i elektrotechniki, Akademii nauk Litovskoy SSR)

TITLE: Heat resistance of refractory materials. 1. High temperature apparatus for
investigation of heat resistance

SOURCE: AN LitSSR. Ser B. Fiz-matem khim geol i tekhn n, no. 1, 1966, 161-166

TOPIC TAGS: heat resistant material, metallurgic testing machine, aluminum oxide,
zirconium compound

ABSTRACT: The article describes an original piece of apparatus for investigating the
heat resistance of refractory materials with a temperature drop from 2500 to 300°K.
The apparatus has two heating elements: the upper high temperature element is made of
sheet tungsten, and the lower low temperature element of sheet molybdenum. The heating
temperature of the samples in the zone of the upper element can be regulated in the
interval from 600 to 2500°, and in the zone of the lower element from 400 to 1800°K.
By replacing the molybdenum heater by a coil, cooled by countercurrent water, a
temperature near 300°K can be reached in the lower zone. Cyclic change in temperature

Card 1/2

ACC NR: AP6034934

is achieved by displacing the sample from the high temperature zone to the low temperature zone and back with the aid of an electromagnetic device. The test medium can be either a vacuum or an inert gas (argon or helium). The total power requirement of the apparatus is 10 kilowatts. Investigations of the heat resistance of samples of refractory materials based on refractory oxides of aluminum and zirconium have shown that the apparatus is suitable for both long and short term cyclic tests. Orig. art. has: 4 figures.

SUB CODE: 11/ SUBM DATE: 08Dec65/ ORIG REF: 002

Card 2/2

COMMON ELEMENTS		PROCESSING AND PROPERTIES INDEX	
<p><i>DAUKOVA, T. P.</i></p> <p><i>CA</i></p>		<p><i>DAUKOVA</i></p> <p><i>10</i></p>	
<p>Synthesis of the alkaloid histamine. T. P. Daukova, K. A. Sidorova, and N. A. Preobrazhenskii (Inst. Fine Chem. Tech., Moscow). <i>J. Gen. Chem. (U.S.S.R.)</i> 15, 1174-7 (1946) (English summary).—Cu carbonate (10.1 g.) in 207 cc. concd. NH_4OH was treated with 7 cc. formalin and 0.15 g. KI, followed by 5 g. $\text{CO}(\text{CH}_3)_2$, in 20 cc. 30% EtOH; the mixt. was heated to 70–80° for 1.5 hrs. and on a steam bath for 30–40 min., treated with H_2S, and the acidified filtrate evapd. <i>in vacuo</i> at 30–40°. The residue was dissolved in water and added, along with 8 g. NaNO_2 in 15 cc. water, to 161 cc. 2.5 N HCl, then heated on a steam bath for 15 min., cooled, <i>in vacuo</i>, treated with Na_2CO_3, and evapd. to dryness. The EtOH ext. of the residue gave 4(<i>or</i> 3)-(hydroxymethyl)imidazole as a slowly crystg. oil; HCl salt, m. 95–7°; picrate, m. 204–5° (from water). Regeneration of the base from the HCl salt gave pure 4(<i>or</i> 3)-(hydroxymethyl)imidazole, m. 81–6°, which readily gave the HBr salt, m. 103–5°; nitrate, m. 84–5°. Similar treatment of sorbose gave up to 44–7% of this imidazole, while fructose gave up to 40% yields. Thus the most important intermediate for the synthesis of histamine has been obtained in a satisfactory yield. G. M. K.</p>			
<p>434-51A METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>SECTION 1</p>		<p>SECTION 2</p>	
<p>SECTION 3</p>		<p>SECTION 4</p>	

DAUKSAS, K.

SCIENCE

PERIODICAL: DARBAI. SERIJA B. TRUDY. SERIJA B. No. 3, 1958

Dauksas, K. Hydrochemical characteristics of ground waters of Eastern Lithuania. p. 107.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

DAUKSAS, K.

SCIENCE

PERIODICAL: DARBAI. SERIJA B. TRUDY. SERIJA B. No. 3, 1958

Dauksas, K. Hardness of ground water of Eastern Lithuania and its quality.
p. 137.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, No. 2,
February 1959, Unclass.

DAUKSHAS, Kazis; VENGHYTE, T., red.; ANAITIS, J., tekhn. red.

[Quantitative analysis] Kiekybine analize. Vilnius, Valstybine
politines ir mokslines literaturos leidykla, 1961. 371 p. [In
Lithuanian] (MIRA 14:12)
(Chemistry, Analytic—Quantitative)

DAUKŠAS, K., prof. (K.Vil'nyus)

"Mokslas ir Gyvenimas" Moka i zhizn' 27 no.3:75 Mr '60.

(Lithuania--Science--Periodicals)

(MIRA 13:6)

D.H.K.S.H.R., R.D.

DAUKSHA, A.D.

Mulsifying and mucilaginous properties of gums from certain fruit trees of Rosales. Apt.delo 6 no.5:51-55 S-O '57. (MIRA 10:11)

1. Is kafedry farmakognosii (rukovoditel' raboty - prof. I.A. Murav'yev) Pyatigorskogo farmatsevticheskogo instituta.
(FRUIT TREES) (GUMS AND RESINS)

DAUKSHA, A. D. Cand Pharm Sci -- (diss) "Study of the ^{gums}resins of certain
arboreal plants of the rose family." Baku, 1958. 16 pp (Azerbaijani State
Med Inst im N. Narimanov), 250 copies (KL, 52-58, 109)

ASOYEVA, Ye.Z.; DAUKSHA, A.D.; DENISOVA, Ye.K.

Chemical composition of Alhagi persarum Boiss et Buhse. Izv.AN
Turk.SSR:Ser.biol.nauk no.3:74-76 '62. (MIRA 15:9)

1. Pyatigorskiy farmatsevticheskiy institut.
(ASHKhabAD REGION--ALHAGI)

ASOYEVA, Ye. Z.; DAUKSHA, A. D.; DENISOVA, Ye. K.

Chemical composition of *Alhagi persarum*. Izv. AN Turk. SSSR.
Ser. biol. nauk no. 6:75-77 '63. (MIRA 17:5)

1. Pyatigorskiy farmatsevticheskiy institut.

ASOYEVA, Ye.Z.; DAUKSHA, A.D.; DENISOVA, Ye.K.; MURAV'YEVA, D.A.

Saponin-containing plants of the Northern Caucasus. Nauch. dokl.
vys. shkoly; biol. nauki no.4:148-150 '64. (MIRA 17:12)

1. Rekomendovana kafedroy farmakognozii Pyatigorskogo farmatsevti-
cheskogo instituta.

DAUKSHA, K.

Cand Tech Sci - (diss) "Improvement of mixture-formation in engines with vortex chamber." Kaunas, 1961. 38 pp; with diagrams; (Ministry of Agriculture Lithuanian SSR, Lith Agri Academy); 180 copies; price not given; (KL, 10-61 sup, 214)

DAUKSHAS, K.

USSR/Analytical Chemistry - Analysis of Inorganic Substances

G-2

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 8493

Author : Dauksas, K. and Finkelsteinaite, M.

Inst : Vilno University

Title : A New Method for the Determination of Monocarboxylic Acids and Iron

Orig Pub : Uch. zap. Vil'nyussk. un-t, Section on Mathematical, Physical, and Chemical Sciences, 1956, No 5, 101-105 (in Lithuanian with Russian summary)

Abstract : Fe(III) salts react with acetates in neutral media to form polynuclear complexes of the type $[\text{Fe}_2(\text{CH}_3\text{COO})_6(\text{OH})_2]/\text{OOCCH}_3$. Fe(III) yields similar compounds with other monocarboxylic acids. Only Cr(III) gives similar complexes under certain conditions. The reaction of FeCl_3 with acetate has been used in the development of a conductometric method for the determination of Fe (in the presence of Ni, Co, Al, Zn, and other cations) and of monocarboxylic acids in mixtures of mineral acids. The method gives satisfactory results.

Card 1/1

-32-

DAUKSHAS, K.

APPROVED FOR RELEASE: 08/25/2000

CIA-RDP86-00513R000509730008-

SOV/137- 58-11-23797

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 274 (USSR)

AUTHORS: Dauksas, Ramonayte [Dauksas, K., Ramonaité, S.]

TITLE: Volumetric Determination of Aluminum (Ob'yemnoye opredeleniye alyuminiya) in Lithuanian

PERIODICAL: Uch. zap. Vil'nyussk. un-t. Ser. matem., fiz. i khim. n., 1957, Vol 7, pp 153-159

ABSTRACT: The possibility of volumetric determination of Al in the presence of Fe and Ti was investigated. A technique was developed for the acidimetric determination of Al in aluminate solutions by transforming it into a fluoride complex and titrating the equivalent amount of liberated alkali. The presence in the solution of a triple amount of Fe and Ti does not impede the determination.

K. K.

Card 1/1

DAUKSHAS, K.

SOV/137-58-11-23832

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 280 (USSR)

AUTHORS: Daukshas, Narushkevichus [Daukšas, K., Naruškevičius, L.]

TITLE: On the Volumetric Determination of Antimony (K ob'yemnomu opredeleniyu sur'my) in Lithuanian

PERIODICAL: Uch. zap. Vil'nyusk. un-t. Ser. matem., fiz. i khim. n., 1957, Vol 7, pp 161-168

ABSTRACT: The authors propose three methods for the iodometric determination of Sb using potentiometric titration: 1) titration with iodine, 2) using a bi-metallic electrode, and 3) using SnCl_2 . In the second case Cu does not impede the determination. Pb, Sn, Bi, Fe, and As impede the determination in the second but not in the third case.

K. K.

Card 1/1

SOV/137-58-11-23811

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 276 (USSR)

AUTHORS: Daukshas, Pajeda [Daukšas, K., Pajeda, R.]

TITLE: Investigation of Methods of Cobalt Determination (Issledovaniye metodov opredeleniya kobal'ta) in Lithuanian

PERIODICAL: Uch. zap. Vil'nyussk. un-t. Ser. matem., fiz. i khim. n., 1957, Vol 7, pp 183-195

ABSTRACT: Methods for the determination of Co are investigated. The sulfate, electrolytic, and phosphate methods are suitable for the precise determination of Co. The anthranil method is the most precise, having a relative error of 0.00 - 0.06%. A gravimetric method was developed for the determination of Co in the form of $[C_{10}H_6O(NO)]_3 Co \cdot 2H_2O$ in the presence of Ni, Cr, Mn, and As and an iodometric method using $CHCl_3$ and starch as indicators.

K. K.

Card 1/1

DAUKSHAS, V.K.

AUTHOR:
TITLE:

20-6-23/59
LEVINA, R.Ya., SHABAROV, Yu. S., DAUKSHAS, V.K. and TRESENKOVA, Ye.G.
2,4-Dimethylpentadien-1,3 in the Synthesis of Alkanes with Two
Quaternary Carbon Atoms Separated by a CH_2 -Group (Ditertiary
Alkylmethanes).

PERIODICAL:

2,4-dimetilpentadien-1,3 v sinteze alkanov s dvumya chetvertich-
nymi atomami ugleroda, razdelennymi CH_2 -gruppoy (ditretichnoalkil-
metanov. Russian).
Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 6, pp 1286 - 1289
(U.S.S.R.)

ABSTRACT:

In earlier reports the authors described the method of synthesis
of ethylene-hydrocarbons with a quaternary carbon atom. It con-
sists of a reaction between alkylmagnesiumbromides and unsaturated
tertiar bromides of the allyle-type; the latter are easily pro-
duced by means of hydrobromization of dien-hydrocarbons of a rami-
tied structure with a conjugated system of double bindings. E.g.
hydrobromide of 2,4-dimethylpentadien-1,3 served as initial sub-
stance for the synthesis of 2,4-trimethylalkenes. In this paper the
authors worked out a new and easy synthe for the production of the
rather hard obtainable paraffinhydrocarbons with four quarternary
carbon atoms which are separated by a CH_2 -group, that is of the di-
tertiary alkylmethanes. Here the same initial substance was used.
The reaction mentioned is the first stage of this synthesis, where

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20-6-28/59

2,4-Dimethylpentadien-1,3 in the Synthesis of Alkanes with Two Quaternary Carbon Atoms Separated by a CH_2 -Group (Ditertiary Alkylmethanes).

the yield could be increased from 30 to 45 %. Furthermore, the alkenes which had already a quaternary carbon atom were transformed by the action of hydrochloric acid into saturated tertiary chloride 2-chlorine-2,4-trimethylalkanes (yield 90%). The latter were then introduced into the reaction with magnesiumorganic compounds with sublimate as a catalyzer; the products of this last stage of the synthesis were alkanes with two quaternary carbon atoms separated by a CH_2 -group. In the case of an interaction with magnesiumorganic compounds the saturated tertiary alkanes split off also hydrochloric acid and, with a yield of 50% form the initial alkanes. The latter were used for alkane-synthesis. The alkanes and alkanes were easily separated by distillation. The alkane yield amounted to from 15 - 25 % calculated according to the tertiary chloride introduced into the reaction, and to from 30 - 50 % according to that not utilized. Reactions with yields, methods, and spectroscopic constants are described. (3 tables, 6 Slavic references).

Card 2/3

AUTHORS: Levina, R. Ya, Shabarov, Yu. S., and Daukshas, V. K. SOV/55-58-1-25/33

TITLE: Synthesis of Hydrocarbons. 64. The 2,4 Dimethylpentadien - 1,3 in the Synthesis of the Alkanes With Neighboring Quaternary and Tertiary Atoms of Carbon (Sintez uglevodorodov. 64. 2,4 - dimetil-pentadien - 1,3 v sinteze alkanov s sosednimi chetvertichnym i tretichnym atomami ugleroda)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya fiziko-matematicheskikh i yestestvennykh nauk, 1958, Nr 1, pp 187-191 (USSR)

ABSTRACT: The authors used a method developed some times ago (synthesis of hydrocarbons with quaternary atoms of carbon by reciprocal action of the hydrochloride of 2,4 - dimethylpentadien - 1,3 and the organic combinations containing magnesium) in order to obtain the following combinations: 2,4,4,5 - tetramethylheptene - 2; 2,4,4,5 - tetramethyloctene - 2 and 2,4,4 - trimethyl - 5 - ethylhepten - 2. By hydrogenation of these stuffs the authors obtained: 2,4,4,5 - tetramethylheptan; 2,4,4,5 - tetramethyloctane; 2,4,4 - trimethyl - 5 ethyl heptan. There are 10 references, 7 of which are Soviet, and 3 American.

ASSOCIATION: Kafedra organicheskoy khimii (Chair of Organic Chemistry)

SUBMITTED: April 20, 1957

Card 1/1

AUTHORS: Levina, R. Ya., Shabarov, Yu. S., ^{SOV/79-28-8-11/66} Saukshas, V. K.

TITLE: Synthesis of the Hydrocarbons (Sintez uglevodorodov)
 LXV. Di-Tert.-Alkylmethane From 2,4-Dimethylpentadiene-1,3
 (LXV. Di-tret.-alkilmetany iz 2,4-dimetilpentadiyena-1,3)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp.2049-2055(1958)

ABSTRACT: In connection with a previous publication (Ref 1) the authors present the following results in this paper: a method of synthesizing two alkanes which have quarternaries separated by CH_2 groups has been worked out using 2,4-dimethylpentadiene-1,3 as the starting material. This is a difficult synthesis, and these two compounds were previously almost unknown. The method consists of 4 reactions: 1) preparation of a tertiary unsaturated allyl chloride by hydrochlorinating the 2,4-dimethylpentadiene-1,3; 2) the decomposition of this product with alkyl magnesium bromide to give alkenes with a quarternary carbon atom (45 - 65 % yield); 3) the hydrochlorination of this product; 4) reaction of the resulting tertiary chloride (maximum yield: 90 %) with alkyl magnesium bromide in the

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Synthesis of the Hydrocarbons.

SOV/79-29-8-11/66

LXV. Di-Tert.-Alkylmethane From 2,4-Dimethylpentadiene-1,3

presence of mercurous chloride. Di-tert.-alkylmethanes of symmetrical and unsymmetrical structure were synthesized, and some of these contained both quarternary and tertiary carbon atoms. The yield was 3 - 20 % calculated on the basis of the tertiary chloride, and 6 - 40 % calculated on the basis of the product of reaction 1). Descriptions are given for the first time of a few tertiary monochlorides which have a quarternary carbon in the chain. By hydrochlorinating the 2,4-dimethylpentadiene-1,3 a mono- and dihydrochloride were also prepared. There are 3 tables and 12 references, 10 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet
(Moscow State University)

SUBMITTED: July 1, 1957

Card 2/2

5.3300

69007

AUTHORS:

Levina, R.Ya., Daukshas, V.K.

S/055/59/000/04/023/026
B004/B007

TITLE:

The Synthesis of Hydrocarbons. 73. The Viscous Properties and the Solidification Point of Di-tertiary Alkyl-methanes

PERIODICAL:

Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, Nr 4, pp 221-224 (USSR)

ABSTRACT:

In references 1-5 the authors gave a report on the synthesis of paraffin hydrocarbons having two or three tetrasubstituted carbon atoms separated by a methylene group, and mentioned several physical constants (boiling point, n_D^{20} , d_4^{20}). In this paper the data on the kinetic viscosity (determined by means of an Ostwald capillary viscosimeter at 20°) as well as the solidification points are given. Table 1 gives these data for C_9H_{20} (2,2,4,4-tetramethyl pentane) to $C_{17}H_{36}$ (2,3,5,6,6-pentamethyl-3,5-diethyl-octane).

Viscosity is considerably influenced by the structure. Ramified hydrocarbons have a higher degree of viscosity. Table 2 shows the temperature dependence of viscosity. With rising temperature, the differences in viscosity, which were observed at 20° , become less. Of the isomeric hydrocarbons $C_{15}H_{32}$, the highest specific gravity is found with those hydrocarbons which contain two neighboring tetra-substituted carbon atoms or neighboring tetra- and trisubstituted

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The Synthesis of Hydrocarbons. 73. The Viscous Properties and the Solidification Point of Di-tertiary Alkyl-methanes

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carbon atoms. The hydrocarbons $C_{16}H_{34}$ to $C_{17}H_{36}$ with highly ramified structure vitrify at from -60° to -45° , and the hydrocarbons $C_{15}H_{32}$ at from -70° to -95° . There are 2 tables and 5 Soviet references.

ASSOCIATION: Kafedra organicheskoy khimii (Chair of Organic Chemistry)

SUBMITTED: February 20, 1959

Card 2/2

5(3)

AUTHORS:

Levina, R. Ya., Dankshas, V. K., Kaykaris, P. A. SOV/79-29-4-3/77

TITLE:

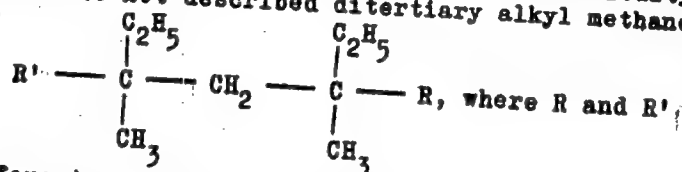
Synthesis of Hydrocarbons (Sintez uglevodorodov). 68. Ditertiary Alkyl Methanes $C_{13} - C_{15}$ From 3,5-Dimethyl Heptadiene-2,4 (68. Ditretichnoalkilmetany $C_{13} - C_{15}$ iz 3,5-dimetilgeptadiyena-2,4)

PERIODICAL:

Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1056-1061 (USSR)

ABSTRACT:

In previous papers (Refs 1,2) the authors described a new synthesis of ditertiary alkyl methanes $R'(CH_3)_2C-CH_2-C(CH_3)_2R$ and used as initial product a tertiary chloride of the allyl type. In the present paper a new general synthesis of the difficultly accessible and hitherto not described ditertiary alkyl methanes of the structure



are equal or different radicals, was devised. The synthesis consists of the following steps: a) Condensation of the methyl-

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Synthesis of Hydrocarbons. 68. Ditertiary Alkyl Methanes $C_{13} - C_{15}$ From
3,5-Dimethyl Heptadiene-2,4 SOV/79-29-4-3/77

ethyl ketone into the 3-methyl hepten-3-one-5; b) synthesis of the 3,5-dimethyl heptadiene-2,4 (IIa) (with a possible impurity of the isomeric diene of the same carbon skeleton). (IIb) by reaction of methyl heptenone with methyl magnesium bromide; c) hydrochlorination of dimethyl heptadiene; d) reaction of the resulting 3-chloro-3,5-dimethyl heptene-4 (III) with alkyl magnesium bromides; e) hydrochlorination of the alkenes (reaction products), i.e. the synthesis of tertiary saturated chlorides [(3-chloro-3,5-dimethyl-5-ethyl alkanes (V))] with a quaternary carbon, and f) reaction of these chlorides with organo-magnesium compounds in the presence of $HgCl_2$ (VI) (see the two reaction schemes). The following compounds were thus newly synthesized: 3,5-dimethyl-3,5-diethyl heptane; 4,6-dimethyl-4,6-diethyl nonane; 2,3,5-trimethyl-3,5-diethyl octane and 2,3,5,6-tetramethyl-3,5-diethyl heptane. There are 3 tables and 14 references, 9 of which are Soviet.

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Synthesis of Hydrocarbons. 68. Ditertiary Alkyl Methanes $C_{13} - C_{15}$ From
3,5-Dimethyl Heptadiene-2,4 SOV/79-29-4-3/77

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: February 19, 1958

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5(3)

AUTHORS: Levina, R. Ya., Daukshas, V. K., Kostrov, V. A. SOV/79-29-8-32/E1

TITLE: Synthesis of Hydrocarbons. LXX. Synthesis of Ditertiary Alkyl Methanes ($C_{14}-C_{17}$) With Three Quaternary Carbon Atoms

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp 2601 - 2604 (USSR)

ABSTRACT: The authors recently described (Refs 1-3) the general method of synthesizing the paraffin hydrocarbons with two quaternary carbon atoms which are separated by a methylene group (of the ditertiary alkyl methanes); the tertiary allyl chlorides (I), the monohydrochlorides of 2,4-dimethyl pentadiene-1,3, ($R=CH_3$) or of 3,5-dimethyl heptadiene-2,4 ($R=C_2H_5$) were introduced into the reaction, i.e. into the first reaction of Grignard-Wuertz, with alkyl magnesium; the resultant alkenes were hydrochlorinated, and the tertiary saturated chlorides synthesized in this connection were converted with alkyl magnesium bromides in the presence of mercuric chloride (in the second Grignard-Wuertz reaction) into the ditertiary alkyl methanes. In the present paper the tertiary alkyl-magnesium chlorides were used (instead of the

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Synthesis of Hydrocarbons. LXX. Synthesis of Ditertiary Alkyl Methanes ($C_{14}-C_{17}$) With Three Quaternary Carbon Atoms SOV/79-29-8-32/81

previously employed primary or secondary alkyl-magnesium bromides) in the first part of the Grignard-Wuertz reaction. The alkenes (II) with two adjacent quaternary carbon atoms were formed; by hydrochlorination of these alkenes, the corresponding saturated tertiary chlorides (III) were obtained, from which the ditertiary alkyl methanes (IV) with considerably branched structure and with three quaternary carbon atoms were synthesized with isopropylmagnesium bromide, in the presence of $HgCl_2$, according to Grignard-Wuertz (Reaction Scheme). In this way, the former universal method of synthesizing the ditertiary alkyl-methanes with two quaternary carbon atoms was extended to the ditertiary alkyl methanes with three quaternary carbon atoms. In both tables, the constants of the resultant alkenes and alkanes with the corresponding general structure formulas are given. The authors expressed their gratitude to Ye. G. Treshchova for the optical investigations which were carried out in order to characterize the compounds synthesized. There are 2 tables and 8 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)
SUBMITTED: July 4, 1958
Card 2/2

LEVINA, R.Ya.; DAUKSHAS, V.K.

Synthesis of hydrocarbons. Part 73: Viscose properties and solidification points of di-tert-alkylmethanes. Vest.Mosk. un.Ser.mat., mekh.astron.fiz.khim. 14 no.4:221-224 '59.

(MIRA 13:8)

1. Kafedra organicheskoy khimii Moskovskogo universiteta.
(Methane)

5(3,4)

AUTHORS:

Shtekher, S. M., Skuratov, S. M., Daukshas, V. K., Levina, R. Ya. SOV/20-127-4-23/60

TITLE:

Heats of Combustion of Some Branched Alkanes

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 4, pp 812-814
(USSR)

ABSTRACT:

The authors describe the use of additive schemes for calculating the values of physico-chemical properties of hydrocarbons for which experimental values are missing. In the molecules of the simplest hydrocarbon group, i.e. the alkanes, there are simple C-C and C-H bonds. But as regards their contributions to certain physico-chemical properties, all these bonds cannot be considered equivalent. A scheme built up on such assumptions would be very simple, yet it is known to be incapable of reflecting the differences of the properties between the isomers. Hence, it is unavoidable to establish a more careful classification of these bonds. A number of additive schemes are presently available which - with a certain accuracy - permit the calculation of the heats of combustion (besides other properties) of alkanes (Refs 1-10). The most logical scheme was developed by V. M. Tatevskiy (Ref 5). The authors are criticising the latter

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in view of its divergences from experimental results. As only one example was available of an alkane with a substitution in a 2,2,4,4-position which showed the divergences mentioned, it was felt to be interesting to find out whether similar phenomena occurred in other alkanes of identical grouping; further, whether the degree of these divergences remained constant, or whether it depends on the structure of the remaining parts of the molecule. Furthermore, it seemed interesting to determine the heats of combustion of such compounds in which the quaternary C-atoms are not separated by one but two methyl group. For these structures the heat of combustion calculated should agree with the experimental values. The schemes (1), (2), and (3) explain the structure of the hydrocarbons whose heat of combustion was determined. A. G. Anikin of the Laboratoriya termodynamiki khimicheskogo fakul'teta (Laboratory for Thermodynamics of the Chemical Department) of the University mentioned below, determined the purity of the substances investigated according to fusion curves. The method of determining the heat of combustion had already been described earlier by the second author et al (Ref 15). Table 1 shows the experimental results obtained. For the sake of comparison, column 2 contains not only

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the values calculated by a scheme developed by V. M. Tatevskiy, but also the difference Δ . Herefrom it may be seen that all hydrocarbons whose molecules contain a group of two quaternary C-atoms, separated by a CH_2 group, show experimental values of the heat of combustion diverging from the values calculated by about 5 ± 1 kcal/mol. This value must be taken into consideration for calculations according to Tatevskiy. If, however, the 2 quaternary C-atoms are separated by 2 CH_2 -groups, the two values are concordant, as was to be expected within the limits of the experimental error. L. V. Fedorchuk and I. Baukh participated in these investigations. There are 1 table and 15 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: April 13, 1959, by A. M. Nesmeyanov, Academician

SUBMITTED: April 10, 1959

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S/079/60/030/06/01/009
B002/B016

5.3300B

AUTHORS: Levina, R. Ya., Daukshas, V. K.

TITLE: Hydrocarbon Synthesis. 74. Alkyl Cyclohexanes With Two Quaternary Carbon Atoms in the Side Chain

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 6, pp. 1758-1761

TEXT: To determine the optimum hydrocarbon structures for the components of motor fuels, some alkyl cyclohexanes were synthesized with two quaternary carbon atoms in their side chain. The authors proved in a previous paper (Ref. 6) that density and refractive index of these compounds decrease with growing distance between the two quaternary carbon atoms. Two groups of compounds were prepared: 1) Direct bonding of one of the quaternary carbon atoms to the cyclohexyl radical; 2) there is a methylene group between the cyclohexyl radical and the quaternary carbon atom. Tertiary allyl chlorides (I) were used as initial substances (the hydrochlorides of 2,4-dimethyl-pentadiene-1,3 and of 3,5-dimethyl-heptadiene-2,4). They were subjected two times to a Grignard-Wuertz reaction, once (ad 1) first under the influence of cyclohexyl-magnesium

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Hydrocarbon Synthesis. 74. Alkyl Cyclohexanes
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Chain

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chloride (formation of alkenyl cyclohexanes II). These were hydrochlorinated (to give III) and then treated with isopropyl magnesium bromide. In this way 2,3,3,5-tetramethyl-5-cyclohexyl-hexane or 2,3,5-trimethyl-3-ethyl-5-cyclohexyl-heptane (IV) were obtained. (Ad 2); 2,3,3,5,5-pentamethyl-6-phenyl hexane and 2,3,3,5,5-pentamethyl-6-cyclohexyl-hexane were obtained by hydrochlorination of (I) to (V); in this case (V) was first treated with isopropyl magnesium bromide to form (VI), and then with benzyl magnesium chloride. The procedure of the synthesis is described in detail in the experimental part. Reaction schemes are given. Constants, analytical data, and yields of all compounds synthesized are summarized in a table. None of the compounds is described in publications. The compounds with a quaternary carbon atom directly bound to the cyclohexyl radical were found to have a higher density than those with an inserted methylene group. The molecular refraction was determined experimentally, and the values were compared with the theoretically calculated ones. The values calculated according to V. M. Tatevskiy (Ref. 9), who considered all types of bondings occurring in the compound, were found to conform best with the experimental values. The authors

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